

Phyre²

Email	i.a.kelley@imperial.ac.uk
Description	P36562
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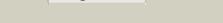
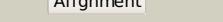
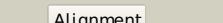
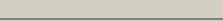
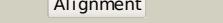
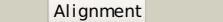
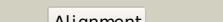
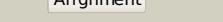
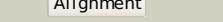
Detailed template information

#	Template	Alignment Coverage	3D Model	Confidence	% i.d.	Template Information
1	d1l5oa_			100.0	79	Fold: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT) Superfamily: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT) Family: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT)
2	d1j33a_			100.0	39	Fold: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT) Superfamily: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT) Family: Nicotinate mononucleotide:5,6-di methylbenzimidazole phosphoribosyltransferase (CobT)
3	c3l0zC_			100.0	21	PDB header: transferase Chain: C: PDB Molecule: putative nicotinate-nucleotide-di methylbenzimidazole PDBTitle: crystal structure of a putative nicotinate-nucleotide-2 di methylbenzimidazole phosphoribosyltransferase from3 methanocaldococcus jannaschii dsm 2661
4	c3u4gA_			100.0	20	PDB header: transferase Chain: A: PDB Molecule: namn:dmb phosphoribosyltransferase; PDBTitle: the structure of cobt from pyrococcus horikoshii
5	d1htwa_			69.7	20	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: YjeE-like
6	c3lmaC_			50.2	23	PDB header: membrane protein Chain: C: PDB Molecule: stage v sporulation protein ad (spovad); PDBTitle: crystal structure of the stage v sporulation protein ad2 (spovad) from bacillus licheniformis. northeast structural3 genomics consortium target bir6.
7	c2c99A_			45.2	17	PDB header: transcription regulation Chain: A: PDB Molecule: psp operon transcriptional activator; PDBTitle: structural basis of the nucleotide driven conformational2 changes in the aaa domain of transcription activator pspf
8	c2re2A_			40.9	12	PDB header: oxidoreductase Chain: A: PDB Molecule: uncharacterized protein ta1041; PDBTitle: crystal structure of a putative iron-molybdenum cofactor (femo-co)2 dinitrogenase (ta1041m) from thermoplasma acidophilum dsm 1728 at3 1.30 a resolution
9	c2c9oC_			33.5	17	PDB header: hydrolase Chain: C: PDB Molecule: ruvb-like 1; PDBTitle: 3d structure of the human ruvb-like helicase ruvbl1
10	c1ojlF_			32.6	15	PDB header: response regulator Chain: F: PDB Molecule: transcriptional regulatory protein zrar; PDBTitle: crystal structure of a sigma54-activator suggests the2 mechanism for the conformational switch necessary for3 sigma54 binding
11	c3k6jA_			30.7	9	PDB header: oxidoreductase Chain: A: PDB Molecule: protein f01g10.3, confirmed by transcript evidence; PDBTitle: crystal structure of the dehydrogenase part of multifunctional enzyme 12 from c.elegans

12	d2tpa2			30.2	19	Fold: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Superfamily: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Family: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain
13	c3co5B			30.0	22	PDB header: transcription regulator Chain: B: PDB Molecule: putative two-component system transcriptional response PDBTitle: crystal structure of sigma-54 interaction domain of putative2 transcriptional response regulator from neisseria gonorrhoeae
14	c3tqfA			28.7	13	PDB header: transferase, hydrolase Chain: A: PDB Molecule: hpr(ser) kinase; PDBTitle: structure of the hpr(ser) kinase/phosphatase from coxiella burnetii
15	d1g6oa			27.9	22	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain)
16	d1l8qa2			26.4	17	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
17	d1ixsb2			25.7	17	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
18	c3fdiA			24.5	12	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: uncharacterized protein; PDBTitle: crystal structure of uncharacterized protein from eubacterium2 ventriosum atcc 27560.
19	d1ny5a2			24.2	15	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
20	d1kkma			24.0	21	Fold: PEP carboxykinase-like Superfamily: PEP carboxykinase-like Family: HPr kinase Hprk C-terminal domain
21	c2gmhK		not modelled	23.9	21	PDB header: transferase Chain: K: PDB Molecule: hpr kinase/phosphorylase; PDBTitle: structure of v267f mutant hpr/p
22	d2fywa1		not modelled	23.8	10	Fold: NIF3 (NGG1p interacting factor 3)-like Superfamily: NIF3 (NGG1p interacting factor 3)-like Family: NIF3 (NGG1p interacting factor 3)-like
23	c1hqcB		not modelled	23.6	17	PDB header: hydrolase Chain: B: PDB Molecule: rvb; PDBTitle: structure of rvb from thermus thermophilus hb8
24	d1ko7a2		not modelled	22.6	21	Fold: PEP carboxykinase-like Superfamily: PEP carboxykinase-like Family: HPr kinase Hprk C-terminal domain
25	d1g41a		not modelled	22.2	15	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain PDB header: hydrolase
26	c2vhfG		not modelled	22.0	20	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain PDB header: hydrolase Chain: G: PDB Molecule: cg3027-pa; PDBTitle: crystal structure of a pyrimidine degrading enzyme from2 drosophila melanogaster
27	c2gx8B		not modelled	21.6	14	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: nif3-related protein; PDBTitle: the crystal stucture of bacillus cereus protein related to nif3
28	c2zktB		not modelled	21.4	13	PDB header: isomerase Chain: B: PDB Molecule: 2,3-bisphosphoglycerate-independent phosphoglycerate PDBTitle: structure of ph0037 protein from pyrococcus horikoshii PDB header: transferase

29	c3h5qA	Alignment	not modelled	20.9	16	Chain: A: PDB Molecule: pyrimidine-nucleoside phosphorylase; PDBTitle: crystal structure of a putative pyrimidine-nucleoside phosphorylase2 from staphylococcus aureus Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
30	d1byia	Alignment	not modelled	20.8	17	PDB header: hydrolase Chain: B: PDB Molecule: holliday junction atp-dependent dna helicase ruvb; PDBTitle: 2.7 angstrom resolution crystal structure of a probable holliday2 junction dna helicase (ruvb) from campylobacter jejuni subsp. jejuni3 nctc 11168 in complex with adenosine-5'-diphosphate
31	c3pf1B	Alignment	not modelled	20.8	20	PDB header: hydrolase Chain: B: PDB Molecule: type iv secretion system protein virb11; PDBTitle: crystal structure of the virb11 atpase from the brucella suis type iv2 secretion system in complex with sulphate
32	c2gzaB	Alignment	not modelled	20.2	19	PDB header: transferase Chain: A: PDB Molecule: pyrimidine-nucleoside (thymidine) phosphorylase; PDBTitle: crystal structure of project id tt0128 from thermus thermophilus hb8
33	c2dsjA	Alignment	not modelled	18.5	15	PDB header: transferase Chain: A: PDB Molecule: putative sulfatase yidj; PDBTitle: crystal structure of a putative sulfatase (np_810509.1)2 from bacteroides thetaiotaomicron vpi-5482 at 2.40 a ³ resolution
34	d2gx8a1	Alignment	not modelled	18.3	14	Fold: NIF3 (NGG1p interacting factor 3)-like Superfamily: NIF3 (NGG1p interacting factor 3)-like Family: NIF3 (NGG1p interacting factor 3)-like
35	c3b5qB	Alignment	not modelled	18.1	19	PDB header: hydrolase Chain: B: PDB Molecule: putative sulfatase yidj; PDBTitle: crystal structure of a putative sulfatase (np_810509.1)2 from bacteroides thetaiotaomicron vpi-5482 at 2.40 a ³ resolution
36	c1otpA	Alignment	not modelled	17.6	17	PDB header: phosphorylase Chain: A: PDB Molecule: thymidine phosphorylase; PDBTitle: structural and theoretical studies suggest domain movement produces an2 active conformation of thymidine phosphorylase
37	d1qvrA2	Alignment	not modelled	17.5	17	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
38	d1y63a	Alignment	not modelled	17.1	25	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nucleotide and nucleoside kinases
39	c3dtpA	Alignment	not modelled	17.0	13	PDB header: contractile protein Chain: A: PDB Molecule: myosin 2 heavy chain chimera of smooth and PDBTitle: tarantula heavy meromyosin obtained by flexible docking to 2 tarantula muscle thick filament cryo-em 3d-map
40	d1d2na	Alignment	not modelled	16.8	20	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
41	d1ye8a1	Alignment	not modelled	16.8	29	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain) PDB header: hydrolase
42	c2qzuA	Alignment	not modelled	16.5	11	Chain: A: PDB Molecule: putative sulfatase yidj; PDBTitle: crystal structure of the putative sulfatase yidj from bacteroides fragilis. northeast structural genomics consortium target bfr123
43	c3ed4A	Alignment	not modelled	16.4	11	PDB header: transferase Chain: A: PDB Molecule: arylsulfatase; PDBTitle: crystal structure of putative arylsulfatase from escherichia coli
44	c2w8dB	Alignment	not modelled	16.3	29	PDB header: transferase Chain: B: PDB Molecule: processed glycerol phosphate lipoteichoic acid synthase 2; PDBTitle: distinct and essential morphogenic functions for wall-and2 lipo-teichoic acids in bacillus subtilis
45	d1m8pa3	Alignment	not modelled	16.2	27	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: ATP sulfurylase C-terminal domain
46	c2qgza	Alignment	not modelled	15.6	11	PDB header: hydrolase Chain: A: PDB Molecule: putative primosome component; PDBTitle: crystal structure of a putative primosome component from2 streptococcus pyogenes serotype m3. northeast structural3 genomics target dr58
47	d1knxa2	Alignment	not modelled	15.5	22	Fold: PEP carboxykinase-like Superfamily: PEP carboxykinase-like Family: HPr kinase Hprk C-terminal domain
48	c3mogA	Alignment	not modelled	15.3	16	PDB header: oxidoreductase Chain: A: PDB Molecule: probable 3-hydroxybutyryl-coa dehydrogenase; PDBTitle: crystal structure of 3-hydroxybutyryl-coa dehydrogenase from2 escherichia coli k12 substr. mg1655
49	c3ec2A	Alignment	not modelled	15.3	24	PDB header: replication Chain: A: PDB Molecule: dna replication protein dnac; PDBTitle: crystal structure of the dnac helicase loader
50	d1uoua2	Alignment	not modelled	15.2	19	Fold: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Superfamily: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Family: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain
51	c2nydB	Alignment	not modelled	15.0	24	PDB header: unknown function Chain: B: PDB Molecule: upf0135 protein sa1388; PDBTitle: crystal structure of staphylococcus aureus hypothetical protein sa1388 Fold: P-loop containing nucleoside triphosphate hydrolases

52	d1a5ta2		Alignment	not modelled	15.0	18	Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
53	d1brwa2		Alignment	not modelled	14.9	22	Fold: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Superfamily: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain Family: Nucleoside phosphorylase/phosphoribosyltransferase catalytic domain
54	d1hdha_		Alignment	not modelled	14.6	8	Fold: Alkaline phosphatase-like Superfamily: Alkaline phosphatase-like Family: Arylsulfatase
55	d1nmpa_		Alignment	not modelled	14.4	27	Fold: NIF3 (NGG1p interacting factor 3)-like Superfamily: NIF3 (NGG1p interacting factor 3)-like Family: NIF3 (NGG1p interacting factor 3)-like
56	c2bpqB_		Alignment	not modelled	14.2	22	PDB header: transferase Chain: B: PDB Molecule: anthranilate phosphoribosyltransferase; PDBTitle: anthranilate phosphoribosyltransferase (trpd) from2 mycobacterium tuberculosis (apo structure)
57	c1ko7B_		Alignment	not modelled	14.2	22	PDB header: transferase,hydrolase Chain: B: PDB Molecule: hpr kinase/phosphatase; PDBTitle: x-ray structure of the hpr kinase/phosphatase from2 staphylococcus xylosus at 1.95 a resolution
58	c2w5tA_		Alignment	not modelled	14.0	21	PDB header: transferase Chain: A: PDB Molecule: processed glycerol phosphate lipoteichoic acid PDBTitle: structure-based mechanism of lipoteichoic acid synthesis by2 staphylococcus aureus Itas.
59	c3lxqB_		Alignment	not modelled	13.9	11	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: uncharacterized protein vp1736; PDBTitle: the crystal structure of a protein in the alkaline2 phosphatase superfamily from vibrio parahaemolyticus to3 1.95a
60	c2oaq1_		Alignment	not modelled	13.7	25	PDB header: hydrolase Chain: 1: PDB Molecule: type ii secretion system protein; PDBTitle: crystal structure of the archaeal secretion atpase gspe in complex2 with phosphate
61	d1p49a_		Alignment	not modelled	13.5	20	Fold: Alkaline phosphatase-like Superfamily: Alkaline phosphatase-like Family: Arylsulfatase
62	d2i09a1		Alignment	not modelled	13.4	36	Fold: Alkaline phosphatase-like Superfamily: Alkaline phosphatase-like Family: DeoB catalytic domain-like
63	d2cvoa1		Alignment	not modelled	13.0	16	Fold: NAD(P)-binding Rossmann-fold domains Superfamily: NAD(P)-binding Rossmann-fold domains Family: Glyceraldehyde-3-phosphate dehydrogenase-like, N-terminal domain
64	d1m7gb_		Alignment	not modelled	12.9	19	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Adenosine-5'-phosphosulfate kinase (APS kinase)
65	d1r6bx2		Alignment	not modelled	12.9	30	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
66	c3e2vA_		Alignment	not modelled	12.8	19	PDB header: hydrolase Chain: A: PDB Molecule: 3'-5'-exonuclease; PDBTitle: crystal structure of an uncharacterized amidohydrolase from2 saccharomyces cerevisiae
67	d1jbka_		Alignment	not modelled	12.6	19	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
68	c2qmoA_		Alignment	not modelled	12.6	24	PDB header: ligase Chain: A: PDB Molecule: dethiobiotin synthetase; PDBTitle: crystal structure of dethiobiotin synthetase (biod) from helicobacter2 pylori
69	d1oosa2		Alignment	not modelled	12.5	24	Fold: Aminoacid dehydrogenase-like, N-terminal domain Superfamily: Aminoacid dehydrogenase-like, N-terminal domain Family: Malic enzyme N-domain
70	d1qzxa3		Alignment	not modelled	12.5	27	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Nitrogenase iron protein-like
71	d1in4a2		Alignment	not modelled	12.3	20	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: Extended AAA-ATPase domain
72	d1uf5a_		Alignment	not modelled	12.0	15	Fold: Carbon-nitrogen hydrolase Superfamily: Carbon-nitrogen hydrolase Family: Carbamylase
73	d1fsua_		Alignment	not modelled	12.0	21	Fold: Alkaline phosphatase-like Superfamily: Alkaline phosphatase-like Family: Arylsulfatase
74	c2p65A_		Alignment	not modelled	11.8	17	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: hypothetical protein pf08_0063; PDBTitle: crystal structure of the first nucleotide binding domain of2 chaperone clpb1, putative, (pv089580) from plasmodium vivax
75	d1g8fa3		Alignment	not modelled	11.8	22	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: ATP sulfurylase C-terminal domain
76	c3nwjB_		Alignment	not modelled	11.6	27	PDB header: transferase Chain: B: PDB Molecule: atsk2; PDBTitle: crystal structure of shikimate kinase from arabidopsis thaliana2 (atsk2)
77	c1knxF_		Alignment	not modelled	11.3	23	PDB header: transferase/hydrolase Chain: F: PDB Molecule: probable hpr(ser) kinase/phosphatase; PDBTitle: hpr kinase/phosphatase from mycoplasma pneumoniae

78	c1brwB		Alignment	not modelled	11.2	20	PDB header: transferase Chain: B: PDB Molecule: protein (pyrimidine nucleoside phosphorylase); PDBTitle: the crystal structure of pyrimidine nucleoside2 phosphorylase in a closed conformation
79	c3hdtB		Alignment	not modelled	10.9	13	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: putative kinase; PDBTitle: crystal structure of putative kinase from clostridium symbiosum atcc2 14940
80	d1j31a		Alignment	not modelled	10.7	19	Fold: Carbon-nitrogen hydrolase Superfamily: Carbon-nitrogen hydrolase Family: Carbamilate
81	d1auka		Alignment	not modelled	10.7	30	Fold: Alkaline phosphatase-like Superfamily: Alkaline phosphatase-like Family: Arylsulfatase
82	d2i3ba1		Alignment	not modelled	10.7	22	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain)
83	c2chvE		Alignment	not modelled	10.6	29	PDB header: dna-binding protein Chain: E: PDB Molecule: replication factor c small subunit; PDBTitle: replication factor c adnpn complex
84	c3n4pA		Alignment	not modelled	10.4	25	PDB header: dna binding protein Chain: A: PDB Molecule: terminase subunit ul89 protein; PDBTitle: human cytomegalovirus terminase nuclease domain
85	d1g64b		Alignment	not modelled	10.3	13	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain)
86	c3labA		Alignment	not modelled	10.2	10	PDB header: structural genomics, unknown function Chain: A: PDB Molecule: putative kdpg (2-keto-3-deoxy-6-phosphogluconate) PDBTitle: crystal structure of a putative kdpg (2-keto-3-deoxy-6-phosphogluconate) aldolase from oleispira antarctica
87	d1p5ja		Alignment	not modelled	10.2	20	Fold: Tryptophan synthase beta subunit-like PLP-dependent enzymes Superfamily: Tryptophan synthase beta subunit-like PLP-dependent enzymes Family: Tryptophan synthase beta subunit-like PLP-dependent enzymes
88	c1p5jA		Alignment	not modelled	10.2	20	PDB header: lyase Chain: A: PDB Molecule: l-serine dehydratase; PDBTitle: crystal structure analysis of human serine dehydratase
89	c3m8yC		Alignment	not modelled	10.0	36	PDB header: isomerase Chain: C: PDB Molecule: phosphopentomutase; PDBTitle: phosphopentomutase from bacillus cereus after glucose-1,6-bisphosphate2 activation
90	c3ab8B		Alignment	not modelled	9.9	21	PDB header: unknown function Chain: B: PDB Molecule: putative uncharacterized protein ttha0350; PDBTitle: crystal structure of the hypothetical tandem-type universal stress2 protein ttha0350 complexed with atps.
91	d2fzva1		Alignment	not modelled	9.9	19	Fold: Flavodoxin-like Superfamily: Flavoproteins Family: NADPH-dependent FMN reductase
92	d1t35a		Alignment	not modelled	9.8	28	Fold: MCP/YpsA-like Superfamily: MCP/YpsA-like Family: MoCo carrier protein-like
93	c2q4dB		Alignment	not modelled	9.8	28	PDB header: structural genomics, unknown function Chain: B: PDB Molecule: lysine decarboxylase-like protein at5g11950; PDBTitle: ensemble refinement of the crystal structure of a lysine2 decarboxylase-like protein from arabidopsis thaliana gene at5g11950
94	d1g5ta		Alignment	not modelled	9.6	13	Fold: P-loop containing nucleoside triphosphate hydrolases Superfamily: P-loop containing nucleoside triphosphate hydrolases Family: RecA protein-like (ATPase-domain)
95	c3n4qA		Alignment	not modelled	9.5	25	PDB header: dna binding protein Chain: A: PDB Molecule: terminase subunit ul89 protein; PDBTitle: human cytomegalovirus terminase nuclease domain, mn soaked
96	d2ieaa3		Alignment	not modelled	9.4	14	Fold: TK C-terminal domain-like Superfamily: TK C-terminal domain-like Family: Transketolase C-terminal domain-like
97	c2we7A		Alignment	not modelled	9.3	23	PDB header: oxidoreductase Chain: A: PDB Molecule: xanthine dehydrogenase; PDBTitle: crystal structure of mycobacterium tuberculosis rv0376c2 homologue from mycobacterium smegmatis
98	c2i09A		Alignment	not modelled	9.1	25	PDB header: isomerase Chain: A: PDB Molecule: phosphopentomutase; PDBTitle: crystal structure of putative phosphopentomutase from streptococcus2 mutans
99	c2px0D		Alignment	not modelled	9.1	23	PDB header: biosynthetic protein Chain: D: PDB Molecule: flagellar biosynthesis protein flhf; PDBTitle: crystal structure of flhf complexed with gmppnp/mg(2+)